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# United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Drug and Poisonous Plant Investigations,

WASHINGTON, D. C.

(Preliminary Notice.)

## MENZIESIA, A NEW STOCK-POISONING PLANT OF THE NORTHWESTERN STATES.

By C. DWIGHT MARSH, *Physiologist.*

### INTRODUCTION.

In the summer of 1912 a rather heavy loss of sheep in the Pend Oreille National Forest, in Idaho, was brought to the attention of the Office of Drug and Poisonous Plant Investigations. This loss was at first supposed to have resulted from poisoning by lupine. A preliminary investigation of the locality and of the facts in connection with the loss resulted in some doubt being thrown upon this theory.

Accordingly, Mr. W. W. Eggleston, botanist in the office mentioned, was asked to make a somewhat careful botanical examination of the region. The results of his investigation confirmed the opinion that lupine was not responsible for the loss and led to the suspicion that *Menziesia* might be the cause of the trouble. Preliminary feeding experiments with this plant show that it is poisonous to sheep, and there seems to be no doubt that the deaths in this case were due to *Menziesia*. Further investigations are necessary in order to clear up the subject of *Menziesia* poisoning, but, inasmuch as the plant is somewhat widely distributed in the northwestern part of the United States, it has seemed desirable to issue a preliminary notice in order to call the attention of stockmen to this subject and to put them on their guard.

### DESCRIPTION OF MENZIESIA.

The species of *Menziesia* are straggling, erect, branching shrubs, growing 3 to 7 feet in height. The leaves are deciduous, alternate, entire, thin, glandular hairy, 1 to 2 inches long, and one-half to 1 inch wide. The flowers grow from terminal buds, expanding with the



leaves, are about one-quarter inch broad, globose, bell shaped or cylindrical, and pink to greenish white in color. The pedicels are nodding in flower, but erect in fruit. The calyx is small and flattish, and both the calyx and corolla are four toothed or four lipped. The filaments are eight in number, the style single with the apex four lobed. Both filaments and style are included in the corolla. The capsule is ovoid, oblong, and separated at maturity into four valves. The seeds are narrow and numerous. Plate I shows *Menziesia glabella* in flower and Plate II shows the plant in fruit.

The genus *Menziesia*, containing seven species, is found in North America, Kamchatka, and Japan. One species grows at high altitudes in the southern Allegheny Mountains, while two grow in the western mountains from Wyoming and Oregon north into British Columbia and along the coast from northern California through the Aleutian Islands to Kamchatka. The genus seems to prefer granitic or quartzite soils.

The Rocky Mountain species of *Menziesia glabella*, which is the species found to be poisonous in the Pend Oreille National Forest, grows on moist northern slopes in open woods and about the "balds" at an altitude of from 3,500 to 6,000 feet. It is a local species, occurring abundantly in many places, but one may often travel miles at the right altitude without seeing any specimens. The freshly crushed foliage is sticky and has a strong and disagreeable odor.

#### SYMPTOMS OF POISONING.

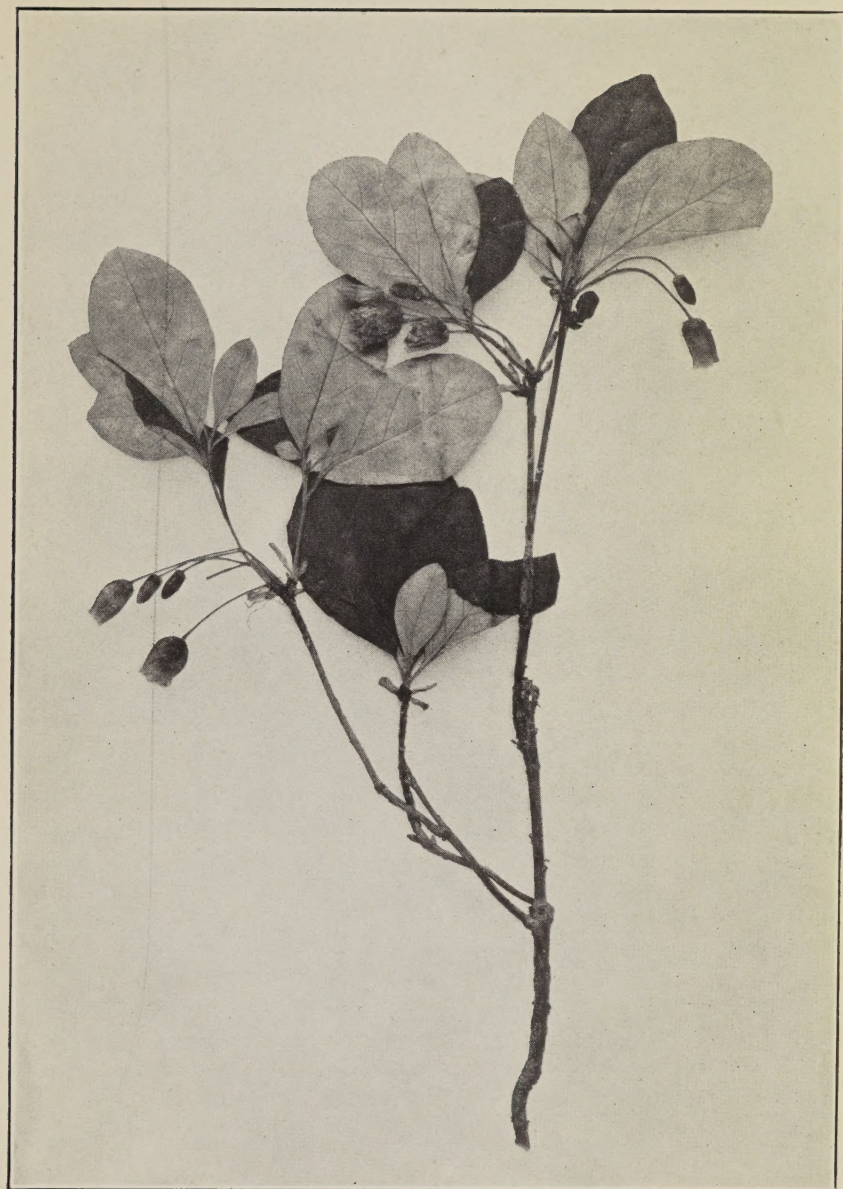
The symptoms exhibited in cases of poisoning by *Menziesia* are much like those seen in poisoning by a number of other plants. Salivation, or frothing at the mouth, is noticeable, and this is followed by weakness, leading to a staggering gait and culminating in a more or less complete paralysis. There is generally pronounced nausea, and sometimes there is difficulty in breathing.

#### TOXICITY.

Apparently the plant is not extremely toxic, experiments showing that a considerable quantity must be eaten before symptoms of intoxication appear.

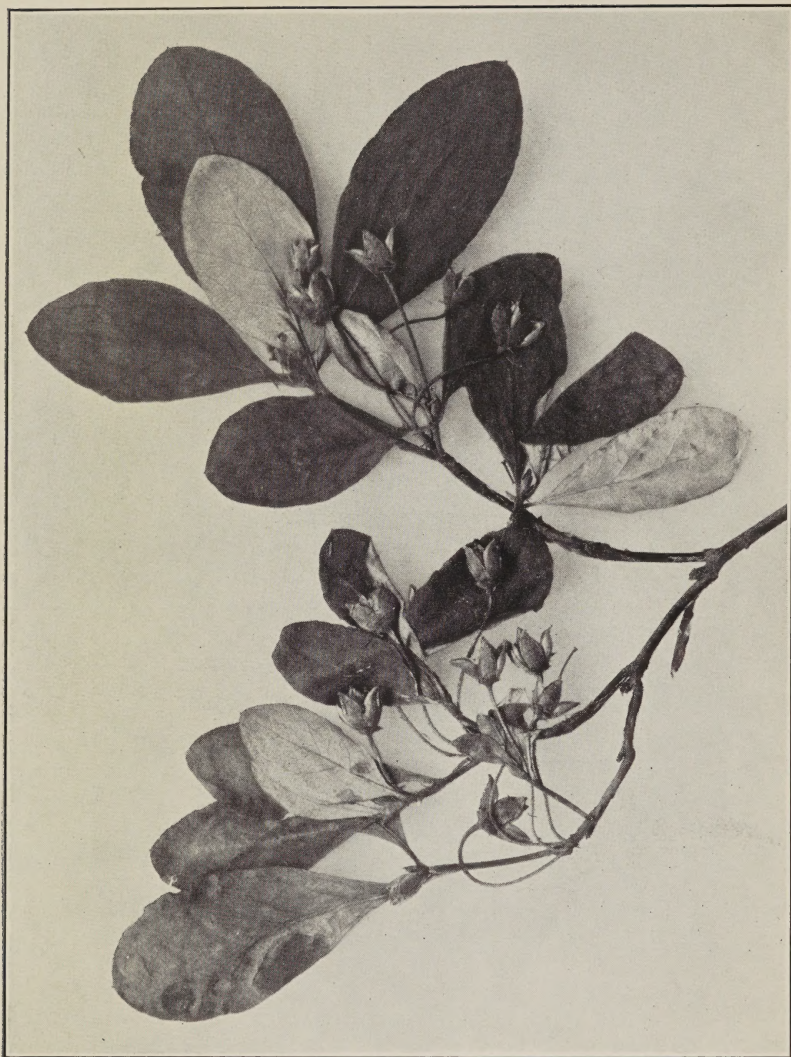
#### PREVENTION OF LOSSES.

From what has been said, it is evident that this is not to be ranked among the extremely dangerous plants. When, however, sheep eat any great quantity of *Menziesia*, losses may occur, and this may prove a serious matter to the individual owner. It is important that herders handling sheep in the mountains of Idaho, Washington, and Oregon become acquainted with the plant and then take precautions to prevent the sheep from eating any large quantity of it.



MENZIESIA GLABELLA IN FLOWER.





MENZIESIA GLABELLA IN FRUIT.

The trouble is most likely to occur either on narrow trails, where the plant grows in abundance, or upon bedding grounds located in neighborhoods in which the plant occurs, particularly if these bedding grounds are used for two or more nights in succession. As has been indicated in a previous publication,<sup>1</sup> grazing animals are not likely to eat any poisonous plant so long as an abundance of other forage is provided. *Menziesia* is no exception to this general rule. It does not seem probable that sheep will take it except when there is a lack of other forage. When trails are bordered by this plant and the sheep are moved along rapidly, many of them will seize upon the *Menziesia* and poisoning may result. When a bedding ground is used repeatedly the sheep will devote themselves at first to the ordinary forage plants, and after that supply is exhausted they will, of course, take what is left. If *Menziesia* is the plant that is left, trouble results. If herders can be brought to recognize the plant and manage their sheep intelligently, it is probable that there will be few losses from this cause.

Approved:

WM. A. TAYLOR,  
*Chief of Bureau.*

MAY 2, 1914.

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<sup>1</sup> Marsh, C. Dwight. Stock poisoning due to scarcity of food. Farmers' Bulletin 536, U. S. Department of Agriculture. 1913.





